

ATKO

AUTOMATIC TELEGRAPH KEYER CORP.

KEYERS — TAPES — AUTOMATIC ELECTRONIC DEVICES

275 Madison Ave.

~~33 WEST 42ND STREET~~

NEW YORK 36, N. Y.

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Nov. 9, 1964

Mr. Mr. T. Nelson
Poughkeepsie, N.Y.

Dear Sir:

Thank you for your inquiry relative to the ATKO Mini-Keyer.

We are pleased to enclose a reprint of an article which appeared in the April 1964 issue of CQ magazine. We feel that this article clearly and adequately describes the Mini-Keyer in detail.

One of the features of this keyer is that it uses Wheatstone perforated tape, which is standard the world over. This tape may be punched out by a regular commercial tape perforator, or purchased from us. Accurate and stable code speeds of from 4 to 30 WPM are available at a variety of speeds.

The price is \$49.50 with one capstan and three reels of learner's tape. Additional tapes are \$2.00 each as are capstans. Special tapes with your material are \$5.00 each. Shipping charges are extra, and unless otherwise indicated will be by parcel post.

Sincerely,

Wally Jones

WJL:hl
encl.

AUTOMATIC TELEGRAPH KEYER CORP.

Note : This is the excat machine we have been shipping to the US Navy for use in their Reserve program

We also make a model 10B which comes without tone source or speaker and sells for \$39.50.

This model will key your tone source and also your transmitter.

The Atko Mini-Keyer

THE Atko Mini-Keyer is an automatic machine which transmits audible code from a perforated tape for instruction and practice in the reception and transmission of code signals. It also may be used to key other tone sources or a transmitter.

A difficulty often encountered with similar devices is that the sending speed is inaccurate, difficult to adjust and sometimes erratic. Also, special tapes, perforated to fit the particular machine, must be used. The Atko utilizes a standard Wheatstone tape which is perforated in accordance with the standard method. It may be punched out by a regular commercial tape perforator. Accurate and stable code speeds of from 4 to 30 words-per-minute are obtainable at 21 different speed levels.

The Mini-Keyer is a complete unit which, besides the automatic keying mechanism, includes a tone oscillator, loudspeaker, volume and pitch controls. A phone jack also is included from which up to 25 pairs of headphones, connected in parallel, may be operated. An external speaker may be also driven from the phone jack.

A key jack makes it possible to plug in a hand key in order to practice one's own sending using the unit's tone oscillator and speaker. A most advantageous feature, in this regard, is that code tapes are available with double or triple spacing between the characters, so that the student may imitate the characters during the pauses between them by using a hand key plugged into the jack. This will provide sending and receiving practice at the same time. It also will help the beginner to learn the characters more by their sound rather than by a specific number or sequence of dots and dashes. Besides this, it will provide a lapse of time between characters for their recognition and for writing them down on paper.

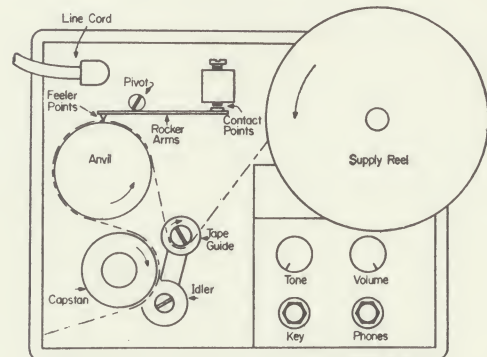
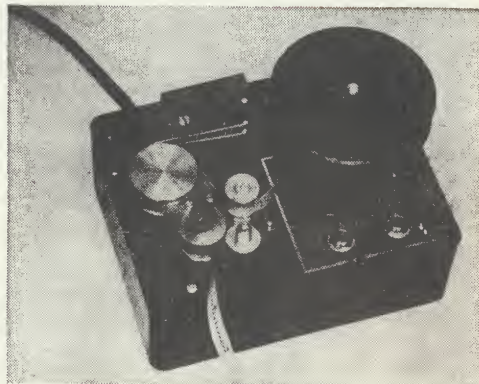


Fig. 1—Threading diagram of the Atko Mini-Keyer. The two rocker arms are stacked one above the other.



The Atko Mini-Keyer automatically transmits code signals from a perforated tape. It is a self-contained unit operated from a 117 volt 60 cycle a.c. source and it includes a tone oscillator with monitoring loudspeaker. The tape is operated by a synchronous motor and its speed can be adjusted, as needed, by changing the capstan for one of a different size. The capstan is at the lower left with the small black knob on top of it.

Circuitry

The Mini-Keyer is powered from a 117 volt 60 cycle a.c. source at a power drain of 10 watts. It employs a transistorized tone oscillator operated at a low d.c. potential from a 6 volt transformer with a solid-state voltage-doubler circuit. The unit is ready to go as soon as the power switch is turned on.

The tape is operated by a 60 cycle synchronous motor which has a built-in speed-reduction gear to provide a capstan speed of exactly 18 r.p.m. The motor runs with the same precision as an electric clock, thereby ensuring an accurately known and stable code speed.

The tape used by the Mini-Keyer is standard commercial, canary colored oiled paper tape, 15/32" wide and .004" thick. Three rows of holes are perforated along the tape. The center row is not used by this keyer. Only the two outer rows contain the necessary code information. Each reel of tape furnishes approximately one hour of code at a speed of 10 w.p.m.

Keying Mechanism

The automatic keying mechanism functions as follows. Referring to fig. 1, the tape is taken from the supply reel, passed over the tape guide, around the anvil and between the capstan and the idler. The motor rotates the capstan, the bearing surface of which is serrated so that it

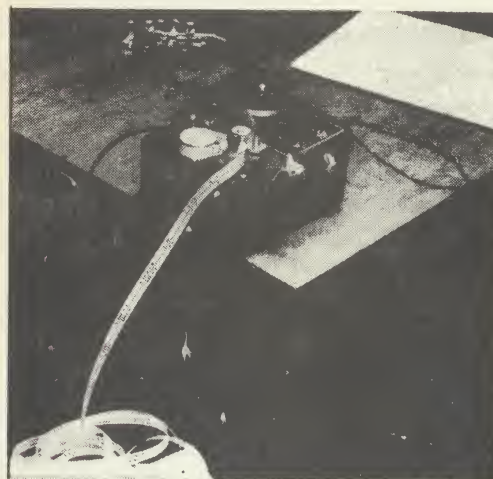
idler with sufficient pressure to avoid slippage (the idler is rubber-tired and spring-loaded). The speed at which the tape is drawn depends on the diameter of the capstan which is made removable so that different diameter capstans may be interchanged to produce any desired code speed.

Two rocker arms are mounted on a pivot, one above the other. Each arm has a feeler point at one end and a contact point at the other end. As the tape is drawn around the anvil, the feeler points fall into the two outer rows of holes in the perforated tape, causing the arms to swing slightly counter-clockwise and making the contact points close. When one of the feeler points falls into a perforation, the closing of its contact point actuates a relay which turns on the tone. In a similar manner, when the other feeler point falls, the tone is turned off.

Code Speed

The Mini-Keyer is supplied with one 16 word-per-minute capstan. Other standard capstans are available for code speeds of 12, 14, 18, 20, 22, 25 and 30 w.p.m. In-between speeds are obtained by the use of tapes with double or triple spaced characters. When these tapes are used, the train of characters will pass at a word-per-minute rate of one-half or one-third of the speed marked on the capstan in use. For instance; when a 12 w.p.m. capstan is used, the rate with a double-spaced tape will be $12 \div 2$ or 6 w.p.m. For a triple-spaced tape it will be $12 \div 3$ or 4 w.p.m. Normal spacing, of course, will provide 12 w.p.m.

When tapes with other than normal spacing are used, it should be noted that although the w.p.m. rate is slowed down, the formation of each character will be made at the speed for a normally spaced tape at the capstan rating. The full effect of a slower speed thus may not be realized; however, by having the individual characters formed at a faster rate, the student is aided in recognizing them by a more rapid sound and



Available Tapes

Three reels of practice tape are furnished with the Mini-Keyer. These contain triple-spaced tapes comprising lessons 1, 2, 3 and 4 from a series of 10 lessons. The remaining lessons are available at additional cost. Special CQ or test tapes with call signs or other material, for automatically keying a transmitter, are available to order. These tapes generally are not wound on reels, but are short lengths with their ends joined together to form a closed loop which makes an endless belt that will repeat the signals continuously.

Performance

Putting the Mini-Keyer through its paces proved it to be an excellent device. Accurate and stable code speed, clean keying and tonal quality, convenience of setup and adjustment along with fine overall performance was experienced. No tearing, entangling, jumping, damage or jamming of tapes was encountered, nor was any erratic operation found.

The tapes with extra spacing between the letters and the practice-keying feature, available between characters, proved to be exceptionally helpful to the beginner, and it was surprising to see how rapidly code copying and sending could be mastered as well as the short time that was required for raising one's code speed.

There is no take-up reel for the tape which has passed through the keyer, so the question might arise as to what should be done with the run-off tape. Simply placing the Mini-Keyer near the edge of a table and letting the tape fall into a smooth box or basket placed on the floor below, in the same manner as ticker tape is handled, will keep the tape together and from entangling, thus posing no problems in respect to tape damage or rewinding it back on the reel by hand.

When the Mini-Keyer is used to operate a transmitter or other external equipment, a relay is used in the unit to break the keyed circuit. The contacts of this relay are not designed to break high potentials or heavy currents. If the equipment can be keyed directly with a separate hand key without visible sparking at the key contacts, it will be safe to use the Mini-Keyer for automatically keying the transmitter. When this does not appear possible, an external transmitter-keying relay, operated by the Mini-Keyer, must be used.

The size of the unit is 7" x 5 1/4" x 3 3/4" and the weight is 3 1/4 pounds. The Atko Mini-Keyer is priced at \$49.50 complete with one 16 w.p.m. capstan, three reels of practice tape and an instruction manual. Additional capstans for other code speeds are \$2.00 each, as are additional reels of tape. The unit is produced by Automatic Telegraph Keyer Corporation, 33 West 42nd Street, New York 36, N.Y.—W2AEF

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